

# Uncle Sam Turns Greatest Radio Station Over to France

Gigantic Lafayette Plant at Bordeaux Stands as Monument to Engineering Proficiency of the United States Navy

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AT Croix d'Hins, the United States Navy last Monday officially turned over to the French Government the most powerful radio station in the world. This great plant, built for the use of our commanders in the great struggle, consists of a quadrangle of eight towers, 850 feet in height, over which are suspended the twenty wires of the antenna using a power of 140,000 volts. The towers are the highest in the world with the exception of the Eiffel Tower, and this magnificent radio plant is seven times more powerful than that famous station.

When Gen. Pershing arrived in France and his troops began to flow across the Atlantic in a steady stream he began to get his lines of communication established. The navy was on the job in the Atlantic and with hundreds of vessels doing patrol duty, and the constant need of unhindered communication between Gen. Pershing, Admiral Sims and our other commanders in France, it was necessary to organize a system of radio transmission for messages.

## Speed a Vital Factor.

Speed was the word in everything connected with the great conflict and speedy communication with Washington was of great importance. Some of the cables had been cut by German submarines and others were disabled, and it was a question whether the Germans might not be able to destroy the entire cable system at any time, leaving us without a means of communication with our forces.

The United States Navy was called upon to supply this system and at the signing of the armistice we had over 5,000 operators in the service and over 150 stations, in addition to which there were about fifteen air stations equipped with naval radio apparatus.

One of the principal means of increasing the efficiency and speeding up traffic was the introduction of automatic high speed transmitting and receiving apparatus. High power stations are now being operated automatically at speeds of from 50 to 200 words a minute, as compared with an average of less than 20 words a minute when using hand sending.

Being unable to foresee the conclusion of the world conflict the United States naval authorities set about to erect the most powerful radio station in the world. The site was selected at Croix d'Hins, in the

vicinity of Bordeaux, France, and the work started. The most expert mechanics were called upon to erect this station. The steel construction of the towers required the services of the most skilled practice of the structural steel industry.

## Work Halted by Armistice.

While this work was going steadily forward the armistice came and work was temporarily discontinued. But France, seeing the advantage of such a powerful means of communication, desired to have this station completed. It was 20 per cent, completed at the date of the armistice and after arrangements were made with France the work was resumed, and to-day the most powerful station in the world stands complete, a monument to naval ingenuity and efficiency.

This station is seven times more powerful than the famous Eiffel Tower, and it was recently announced by the French officials that a message from this station had passed around the world in one-seventh of a second. It is estimated that words travel at the same speed as light rays from the sun, or a speed of about 175,000 miles a second—the greatest speed known to science. New York can be picked up in one-fiftieth of a second and a message buzzed across the Atlantic at the rate of 10,000 words an hour. When this station is placed in full commission there will be four shifts of operators, having a sending capacity of 240,000 words every twenty-four hours.

This great station was turned over to France at cost in the name of Lafayette by the United States Government. This will make Bordeaux the greatest radio centre in the world, and enable France to communicate with her most distant colonies, and that at a speed which annihilates time, being as fast and convenient as would an actual conversation between two persons in a closed room. Ships can be communicated with in the seven seas, though at great distances they would be unable to reply, owing to their lack of apparatus of like power.

Aircraft in all corners of the globe can be directed by this great station, and with a like station in China and other distant points, the news of the world could be flashed from pole to pole in a matter of seconds.

## Cost Estimated at \$400,000.

This plant cost in the vicinity of \$400,000, according to the original bid of a private concern, but it is thought that this was lowered considerably.

The station has been in operation several weeks with American engineers working for the United States Navy and in conjunction with the French, under the command of a United States naval officer, making the tests which were required in the agreement between the two Governments. These tests covered a period of thirty days, during which time every ship



AUTOMATIC TRANSMITTER HANDLING 200 WORDS A MINUTE THROUGH SPACE AT THE RATE OF 175,000 MILES PER SECOND

in the United States Navy, in all parts of the world, was notified to listen in for signals from the great Lafayette station. The signals consisted of the word "Lafayette" repeated over and over. Every five days these vessels were required to make their report to the Navy Department covering all the facts of the tests as they occurred.

If the signals were weak they were reported as such, if they were plain and distinct the fact was recorded. Needless to say this powerful station has proved a success in every way, and according to a statement made by a French engineer the station is so powerful that when sending a message it travels around the world and returns to the starting point like a homing before the message is completed.

## New System of Attaining Speed.

What is it that enables this great station to send messages around the world at a rate of 10,000 words an hour?

It is the new system of multiplex radio telegraphy, a system adopted by the United States Navy during the war and with which four messages can be received at one time, while communication can be carried on with from four to eight vessels at once. It is the system used by the United States Navy Department at Washington and which President Wilson used in keeping in touch with the capital while overseas.

Multiplex messages are sent differently from the old Morse way. A man seats himself at a machine which resembles a typewriter and through which a tape about one inch in width is threaded. As he nimble manipulates the keys, as in writing a letter, the machine perforates this tape in a series

of dots. The tape when completed is run through a transmitter which is a part of the multiplex radio outfit at the rate of 200 words a minute.

The transmitter is prepared with a set of

Built in Stress of War, It Was First to Be Heard Around World—Far Surpasses Germany's Vaunted Achievement

five pins placed in a vertical position. These pins automatically fit into the perforations forming the words which are sent through the air.

It was through this powerful station that the results of the Olympic Games were flashed to the world, and the French Government will open this plant as a regular unit in the French wireless service the latter part of October.

## German Station Outclassed.

Coinciding with the completion of this great station comes the announcement from Germany that on September 30 the powerful radio station at Nauen was officially opened, President Ebert officiating. Not being familiar with the particulars, we merely surmise that this station was under construc-

tion of sending messages half the distance accomplished by the "Lafayette."

The advance American engineers had over the Germans in radio is remarkable, in view of the fact that Germany's scientists are of worldwide fame, and it is logical to suppose that this new station is the latest thing in German radio telegraphy. However, naval officials have announced that upon a comparison of the communication system as installed upon the German ships it was found that the United States Navy was far in advance of them in radio communication.

There are many lasting monuments to American engineering skill left on the soil of France, but the greatest of these is the Lafayette radio station, and what the United States Navy can build abroad can be built at home, and with possible improvements. The American navy has repeatedly demonstrated



CUTTING THE MESSAGE TAPE BEFORE SENDING IT TO THE AUTOMATIC TRANSMITTER

its efficiency to the world with its ships, while its aircraft were the first across the Atlantic, and now a radio station of its own construction has flashed the first message around the world.

# Wildcat Finance Flourishing on Record Scale in New Guises and Old

Postoffice Inspectors Experience Their Busiest Days in Fighting Get Rich Quick Schemes—Public Gullible as Ever Despite Exposés

DOUBTLESS it is just as true now as in Lincoln's time that you cannot fool all the people all the time, but it is likewise still a fact that part of the people are willing to be fooled all the time—perhaps even that all of the people may be fooled part of the time.

There probably never has been a time in the history of this country when more ingenious, varied and promising get rich quick or wildcat financial schemes have been offered to the unsuspecting public than at present.

If the gentlemen—and ladies, too—who set out to separate the people from their hard earned or otherwise obtained cash by means of cunningly disguised frauds should devote the same amount of time, energy and brains that they have recently been devoting to these practices to legitimate business operations they ought to get rich almost as quickly and keep out of jail or the hands of the vigilant post office inspectors at the same time. Why some persons have always and will continue to prefer using their capable brains to make money dishonestly instead of honestly has troubled the minds of psychologists these many generations and will be a moot question, doubtless, for many years to come.

## Busy Ever Since the War.

Since the end of the war these clever schemers have been unusually busy. Within the last few months the number of complaints that have been received by the Post Office Department's inspectors against persons and concerns, which have been using the mails to defraud or to attempt to defraud—which is the same thing in the eyes of the postal laws—has noticeably increased.

The little army of postal inspectors, who are among the best detectives, is busier right now than it has been for many months. Not since the early days of the war, when these men were up to their neck in work to prevent German agents from using the Post Office Department for their own fell purposes, has there been such a call upon their services.

The solicitor of the Post Office Department and his assistants and the post office inspectors pride themselves upon the fact that within recent years the public has been protected against the continuance for any length of time of frauds of this nature. So efficient and relentless has the department been in running down and denying the mails to persons and concerns that seek to make money by false representations that a great many of them cease operations the moment they know the inspectors are on their trail. Another thing that has tended to discourage these gentlemen is the fact that the evidence which must be collected to justify the issuance of a fraud order by the Postmaster-

General is in nine cases out of ten much more complete than is necessary to convict a man in court and send him to jail.

The Post Office Department does not busy itself with punishment of criminals. It is content with denying the use of the mails to fraudulent advertisers and business getters. The criminal prosecutions are the business of the United States District Attorneys and State prosecuting officers. But—and there's the rub—the evidence collected by the army of postal inspectors is not kept secret from these prosecuting officers. It is there ready for use in the courts.

## Ponzi Never Had a Chance.

That is one of the reasons that Mr. Ponzi, who made the buncce game almost as famous in Boston as Bunker Hill, did not have a chance to avoid official scrutiny. From the very minute he began to use the mails, no matter what else he was doing to further his money making scheme, he came within the jurisdiction of the postal sleuths. When complaints were made against him the detectives were on his trail.

But in spite of the splendid work which the postal inspectors are doing the frauds keep up. They are not quite so vicious, perhaps, as they used to be before the Post Office Department got busy, but they are bad enough. They bring in the money, and that is the main point, especially when it is remembered that the class of schemers who are denied the mails do not give in return for the money they get anything like its value, and usually nothing at all of value.

Still, human nature is unchangeable. Education does not seem to reduce the number of persons who are apparently just waiting around to be fooled by these ingenious gentlemen, and as fast as the Post Office Department puts one of them out of business another springs up in his place. In fact, there are a great many instances of men starting another fraudulent scheme within a week after they have been denied the use of the mails. They change their names, or the names of their fake companies, and enter upon an entirely new line of "business."

## Look Jail Warden as Partner.

The archives of the solicitor's office contain the story of a man in a far Western State who was the subject of a fraud order by the department, and was later convicted by the courts and sent to jail. While he was in jail he described his scheme to the warden so graphically, and so impressed that hitherto honest official with the easy manner in which money could be obtained that the warden continued to carry on the self-same scheme in behalf of the prisoner on a fifty-fifty basis.

Instances of the wives of prisoners continuing their "business" during the time

A United States Senate committee recently heard that the minimum annual loss from investment in fraudulent enterprises and wildcat schemes amounted to at least \$500,000,000. Oil stock is the favorite scheme of the moment, and it is said that small investors in Liberty Bonds are selling these to put the money in get-rich-quick plans. Last June four oil companies, ten brokerage firms and fifty individuals were indicted charged with using the mails to defraud the gullible public in oil stocks. The number of victims runs into the millions and they come from every part of the United States.

On September 24 another concern and the individuals serving as its officers and agents were indicted. Every statement made by the corporation and its selling agents, the indictment read, concerning property and yield of oil were false and \$750,000 was alleged to have been taken through these false reports.

On September 28 one woman and two men, representing a company capitalized at \$3,000,000, were indicted. The representation for stock selling was that it produced 1,200 barrels of oil per day from fields in West Virginia and Texas, whereas the Federal attorney asserted that the greatest output had never exceeded 200 barrels daily.

they are in jail are frequent. Indeed, the price of protection of the gullible public from frauds of this kind is eternal vigilance by the postal inspectors. They cannot relax their efforts for a moment. There are too many persons who know exactly how to work all schemes of this sort waiting around to take advantage of the slightest bit up in the detectives' activities or loophole in the law.

The character of the defrauding schemes is almost as varied as human existence. Just now the most popular form of fraud is in the selling of oil stocks that are worthless, but a glance through the records of the Post Office Department during the last year shows that new ideas are occurring to these get rich quick fakers all the time.

The stock game is an old one and is comparatively simple, since it merely consists in using the mails to induce persons to purchase stock in properties whose value is entirely fictional or nearly so.

Another class of mail schemes that are always going on in one form or another is the foreign lotteries. Strictly speaking, these are not frauds in the ordinarily accepted sense of that word. In many foreign countries lotteries are legalized, but it is against the law of the United States to conduct a lottery through the mails, and whenever the postal inspectors find out that a foreign lottery is corresponding with persons in this country all outgoing mail to that enterprise is held up at the various ports.

It is difficult, however, to prevent the use of the mails entirely by foreign lotteries. They are conducted through agents and as soon as these agents find that they have been denied the use of the American mails they change their names or appoint sub-agents and begin all over again. Most of the lotteries are in European countries, but there are also some conducted in the Latin American republics.

Another favorite scheme is to use the mails to "organize" fake societies and leagues, most frequently among women, and to obtain money in this manner under false pretences. In recent years, also, quite a business has grown up in selling all sorts of mongrel animals at fancy prices, after advertising that they are highly bred and pedigreed.

The department a few months ago issued a fraud order against a man who lived in a

middle Western State, who advertised in many publications that he had "thoroughbred, highly trained coon, skunk, opossum, fox and rabbit hounds, fancy collies and shepherd dogs for sale."

When an investigation was made of his "spacious kennels" it was found that he had a few old boxes in his backyard and seven many curs. One of the things he advertised was that he would return the money of any dissatisfied purchasers. But he never did.

Not long ago the lucrative "business" of another individual was broken up by the postal authorities. He, too, lived in a middle Western State, and he advertised in papers far away from his home that for \$10 he would send any one full information telling how to conduct at home "a high class business" that will bring in from \$50 to \$150 a week; needs no experience, no capital and is very pleasant work.

## Many Health Schemes Worked.

After a good many persons had been "stung" by this man and had reported him to the Post Office Department an investigation was made. It was disclosed that he was operating in a little back room over an undertaking establishment, and that his office furniture consisted of a chair, a table and a typewriter. The valuable information which he was selling consisted of a poorly printed, cheap booklet or pamphlet of several pages, which told how persons could make money by such schemes as finding out in their home towns those who had second-hand articles for sale and then finding purchasers for them and taking a commission; getting lists of names of persons suffering from various diseases and selling them to patent medicine concerns, and a few other similarly vague ideas. The cost of the entire booklet could not possibly have been over 10 cents. When this man's record was examined it was discovered that he had previously been a rural mail carrier who had been convicted of rifling the mails.

Health schemes of all sorts are found in every recent year's record. The "silent" and "absent" treatments of diseases which have failed to succumb to ordinary medical treatment are offered at good, round prices, and usually the advertisements and letters are worded so as to make a special appeal to

Wives in Many Instances Carry On Frauds After Husbands Go to Prison—Favorite Ways of Swindling the Public

women. Frequently there is just a little tinge of religion thrown in to act as bait.

Deep and mysterious "secrets" on such subjects as birth control are advertised, but when the information comes back through the mails it is found to be exceedingly commonplace. Every now and then somebody springs up who advertises pictures or books for sale in a manner to suggest that they are very naughty. When the gullible purchaser receives them he finds that they are not naughty at all.

While the postal authorities cannot "get" such a faker for use of the mails to send obscene pictures or literature they can get him, and they do so right along, for misrepresenting the articles.

Many schemes are designed to appeal to the ignorant and superstitious, especially to the negroes. "Hoodoo doctors" often operate through the mails with considerable success until Uncle Sam stops them.

One of the most ambitious schemes that has come to the attention of the Department in recent years was made the subject of a fraud order only a few weeks ago. Thousands of complaints were received from persons who had paid money to a man and his wife who were operating under a dozen or more names, either of individuals or of companies and associations. The Department made an exhaustive investigation of the matter before issuing the fraud order, and, as in practically every case, the defendants were given ample opportunity to appear in their own behalf with witnesses and counsel.

## In the Shadow of the Capitol.

This scheme had its headquarters in Washington, almost within the shadow of the Capitol dome. The basic idea was to prey upon persons who thought they had literary, artistic or musical ability. Elaborate methods for obtaining lists of names of such persons were worked out and had been remarkably successful. Make believe "magazines" were created in the imagination of the perpetrators of this fraud, to which stories and literary articles written by clients of the concern were ostensibly "sold."

There were ramifications in several cities, and imposing lists of editors, all of whom were persons of absolutely no real experience in newspaper, magazine or book publishing, or writing, but whose "long experience" was graphically described in the advertisements and pamphlets of the concern. These persons were merely young men or women employed by the principals at \$10 or \$15 a week. Their criticisms of literary efforts sent to the so-called Press Bureau were copied from printed slips prepared beforehand and numbered. A certain kind of short story submitted for comment would "fit" Criticism No. 3, for instance, and the

"editor" would copy that off and send it back. Meantime the neat sum of money paid in by the client to become a "member" of the Press Bureau was pocketed. Needless to say the criticisms were absolutely worthless.

Although this concern guaranteed to sell stories and songs for its clients, it was found by the postal authorities that not a single one was ever sold except to the imaginary magazines of the concern itself. The prices paid for them ranged from 75 cents to \$4. Of course the fact was carefully concealed that these "magazines" had any connection whatever with the Press Bureau.

In addition, there was a book publishing firm and also a music house, which were nothing more than fifteen dollar a week clerks with a desk and typewriter each. To carry out this elaborate fake and keep all of the fraudulent or imaginary concerns separate in the minds of the poor, deluded client enormous quantities of stationery and pamphlets were printed each month, and it took the time of a small army of clerks to prevent this stuff from getting mixed up and the wrong letter or pamphlet going out to a client.

The persons who "fell" for this scheme—and their name was legion—were never allowed to drop until they had been milked to the last drop. They were followed up first from one angle and then from another and led to think that they were dealing with entirely separate concerns.

This man and his wife were making a great deal of money. The Department did not ascertain just how much, but it was many thousands a year. They occupied a whole building on a corner in the business section.

## Putting Frost to Work

AN interesting application of the freezing system in shaft sinking is exhibited in the Washington colliery in England. When the shaft had been sunk a short distance, it was found that a layer of quicksand eighty feet in depth must be penetrated. To prevent the wet sand from flowing into the shaft it was frozen solid. A circular row of holes, forming a ring over twenty feet in diameter, was made round the shaft, and by means of metal pipes a freezing mixture of brine or chloride of sodium, was caused to circulate in the holes. This had the effect of freezing the sand in a circular wall round the shaft as hard as rock.

On the removal of the soft sand in the centre, the frozen wall remained intact protecting the workmen from the quicksand behind it.